

Listing of the Claims

1. (Currently Amended) A body insertable prosthesis, including:

a body insertable tubular structure including at least one flexible strand selectively formed to provide a plurality of discrete first tubular segments ~~including a first segment, a and a plurality of discrete second tubular segments segment spaced apart axially from the first segment, and a third segment disposed between the first and second segments in an alternating sequence;~~

wherein ~~each of the first tubular segments and the second tubular segments has a~~ have ~~respective first and second nominal diameter~~ diameters when the tubular structure is in a relaxed state and wherein the tubular structure is radially compressible against an elastic restoring force to a predetermined diameter;

wherein the at least one flexible strand further is selectively configured to provide ~~first, second and third~~ axial stiffness levels and ~~first, second and third~~ radial force levels along the ~~first, second and third tubular segments, and second axial stiffness levels and second radial force levels along the second tubular segments~~ respectively, when said tubular structure is segments are radially compressed to the predetermined diameter; and

wherein the first ~~third~~ axial stiffness levels are higher than the second level is outside of a range of axial stiffness levels bound by the first and second axial stiffness levels, whereby the second tubular segments, as compared to the first tubular segments, are adapted to more readily conform to a curvature of a body lumen in which the tubular structure is deployed.

2. (Currently Amended) The prosthesis of claim 1 wherein:

all of the first and second axial stiffness levels are substantially the same.

3. (Currently Amended) The prosthesis of claim 1 wherein:

all of the first and second axial stiffness levels are ~~less than the third axial stiffness level~~ substantially the same.

4. (Cancelled)

5. (Currently Amended) The prosthesis of claim 1 wherein:

the at least one flexible strand includes a plurality of flexible strands helically wound in opposite directions to form multiple strand crossings defining strand crossing angles, including respective first, and second ~~and third~~ strand crossing angles along the first, and second ~~and third~~ tubular segments, respectively; ~~and~~

~~the third strand crossing angle is outside of a range of strand crossing angles bound by the first and second strand crossing angles.~~

6. (Currently Amended) The prosthesis of claim 5 wherein:

the second ~~third~~ strand crossing angle is larger than the first strand crossing angle angles, ~~and the third axial stiffness level is less than the first and second axial stiffness levels.~~

7. (Currently Amended) The prosthesis of claim 5 wherein:

the second ~~third~~ strand crossing angle is substantially the same as ~~smaller than~~ the first ~~and second~~ strand crossing angle angles, ~~and the third axial stiffness level is higher than the first and second axial stiffness levels.~~

8. (Currently Amended) The prosthesis of claim 1 wherein:

the second ~~third~~ radial force level ~~is outside of a range of radial force levels~~ are higher than ~~bound by~~ the first ~~and second~~ radial force levels.

9. (Withdrawn)

10. (Cancelled)

11. (Withdrawn)

12. (Withdrawn)

13. (Withdrawn)

14. (Currently Amended) The prosthesis of claim 1 wherein:

the tubular structure consists essentially of ~~an~~ the alternating series sequence of the first tubular segments ~~having relatively high axial stiffness levels and segments having relatively low axial stiffness levels, said alternating series including the first, second and third~~ tubular segments.

15. (Currently Amended) The prosthesis of claim 14 wherein:

each of the tubular segments of the alternating ~~series~~ sequence has an axial length of at least about 1 cm.

16. (Withdrawn)

17. (Currently Amended) The prosthesis of claim 1 wherein:

the first; and second ~~and third segments have substantially the same~~ nominal diameters are substantially the same.

18. (Withdrawn)

19. (Withdrawn)

20. (Withdrawn)

21. (Withdrawn)

22. (Withdrawn)

23. (Withdrawn)

24. (Withdrawn)

25. (Currently Amended) A prosthesis insertable into body lumens with natural curvature, including:

a body insertable tubular wall incorporating ~~a plurality an alternating sequence~~ of first tubular wall segments and a plurality of second tubular wall segments in an alternating sequence ~~including at least three of the wall segments, each of the~~ first and second tubular wall segments having a respective nominal diameter ~~diameters~~ when in a relaxed state and being radially compressible against an elastic restoring force to a predetermined diameter;

wherein the first and second wall segments when radially compressed to the predetermined diameter have respective axial stiffness levels, with ~~each of~~ the first tubular wall segments having a relatively high first axial stiffness ~~level~~ levels, and with ~~each of~~ the second tubular wall segments having an second axial stiffness ~~level~~ levels lower than ~~that of~~ the first axial stiffness levels, tubular wall segments whereby the second tubular wall segments, as compared to the first tubular wall segments, are adapted to more readily conform to a curvature of a body lumen in which the tubular wall is deployed.

26. (Cancelled)

27. (Cancelled)

28. (Cancelled)

29. (Cancelled)

30. (Cancelled)

31 – 51 (Withdrawn)

52. (New) The prosthesis of claim 25 wherein:

all of the first axial stiffness levels are substantially the same.

53. (New) The prosthesis of claim 25 wherein:

all of the second axial stiffness levels are substantially the same.

54. (New) The prosthesis of claim 25 wherein:

the first and second tubular wall segments when radially compressed to the predetermined diameter have respective radial force levels, with the first tubular wall segments having relatively low first radial force levels, and with the second tubular wall segments having second radial force levels higher than the first radial force levels.

55. (New) The prosthesis of claim 54 wherein:

all of the first radial force levels are substantially the same, and all of the second radial force levels are substantially the same.

56. (New) The prosthesis of claim 25 wherein:

the body insertable tubular wall is composed of at least one flexible strand.

57. (New) The prosthesis of claim 56 wherein:

the at least one flexible strand includes a plurality of flexible strands helically wound in opposite directions to form multiple strand crossings defining strand crossing angles.

58. (New) The prosthesis of claim 57 wherein:

the strand crossing angles along the second tubular wall segments are larger than the strand crossing angles along the first tubular wall segments.

59. (New) The prosthesis of claim 57 wherein:

the strand crossing angles along the first tubular wall segments are substantially the same, and the strand crossing angles along the second tubular wall segments are substantially the same.

60. (New) The prosthesis of claim 57 wherein:

the nominal diameters of the second tubular wall segments are larger than the nominal diameters of the first tubular wall segments.

61. (New) The prosthesis of claim 60 wherein:

the nominal diameters of the second tubular wall segments are substantially the same, and the nominal diameters of the first tubular wall segments are substantially the same.

62. (New) The prosthesis of claim 57 wherein:

the strand crossing angles along the second tubular wall segments are substantially the same as the strand crossing angles along the first tubular wall segments.

63. (New) The prosthesis of claim 56 wherein:

the at least one flexible strand incorporates a first number of filaments along each of the first tubular wall segments and a second number of filaments along each of the second tubular wall segments, wherein the second number is less than the first number.

64. (New) The prosthesis of claim 63 wherein:

the filaments along the first tubular wall segments include first and second different types of filaments.

65. (New) The prosthesis of claim 64 wherein:

the first filament type is selected from the group of filament types consisting of: metallic filaments and biostable non-metallic filaments; and the second filament type is selected from the group of filament types consisting of: metallic filaments, biostable non-metallic filaments, and biodegradable filaments.

66. (New) The prosthesis of claim 65 wherein:

the second type of filament is selected from the group consisting of bioabsorbable filaments.

67. (New) The prosthesis of claim 56 wherein:

the at least one flexible strand includes a plurality of biostable filaments, and a plurality of bioabsorbable filaments.

68. (New) The prosthesis of claim 56 wherein:

the at least one flexible strand includes a first set of flexible filaments spanning substantially the length of the tubular structure and a second set of flexible filaments extending only along the first tubular wall segments.

69. (New) The prosthesis of claim 56 wherein:

the at least one strand comprises a cable incorporating at least two filaments along the first tubular wall segments.

70. (New) The prosthesis of claim 25 wherein:

the tubular wall segments have respective radial force levels when radially compressed to the predetermined diameter, and the radial force levels of the first tubular wall segments are higher than the radial force levels of the second tubular wall segments.

71. (New) The prosthesis of claim 70 wherein:

all of the first radial force levels are substantially the same, and all of the second radial force levels are substantially the same.

72. (New) The prosthesis of claim 25 wherein:

the nominal diameters of the first and second tubular wall segments are substantially the same.

73. (New) The prosthesis of claim 25 wherein:

the tubular wall includes end segments at first and second opposite ends thereof, selected from the group of end segments consisting of: two first segments; two second segments; and a first segment and a second segment.

74. (New) The prosthesis of claim 25 wherein:

the first and second tubular wall segments along said alternating sequence are adjacent one another.

75. (New) The prosthesis of claim 25 wherein:

each of the first and second tubular wall segments has an axial length of at least one centimeter.